

FORESTRY IN NORTH AMERICA.—In the last number or two of the *Gardener's Monthly* we have been reading a translation of a paper bearing the above title and written by John Booth, Klien Flottbeck, Germany. After considering the observed evil effects of forest destruction in various parts of the United States, the writer comes to the following rather somber conclusion, which may have more of truth in it than we will care to acknowledge:

"What then are the conclusions to be drawn from the above remarks for the future of North American Forestry?

"We have seen how all authority is wanting to enforce even the simplest regulations on forestry. The only man in America who ever undertook to carry out his absolute will in this, as every other respect, was Brigham Young, who in this one matter has our decided sympathy. The communistic theory that the 'forests are the property of every single American,' and that he has a perfect right to cut down as much timber as he needs, is so widespread; the corruption in official circles, an unavoidable consequence of perpetual rotation in office, is so general; the necessity in which both parties find themselves of not offending the mass of voters, is so great, that we can hardly call unjustified the assertions of competent and patriotic American authorities as to the impossibility of enforcing any protective laws on forestry. In view of such conditions we can neither hope for any beneficial results from the 'Commission to inquire into the European Laws on Forestry,' asked for by Mr. Secretary Schurz in his annual report to the President; nor expect Professor Sargent, of Harvard, to achieve much by the three years' survey of American forests, with which he has lately been entrusted. A more competent man, or a better authority on all incidental questions, could not be found; but of what use can laws be if there exist no authority to enforce them? It is to be feared that, unless affairs take some entirely unexpected turn, the words of the Secretary of the Interior for 1877 will come true—that 'in twenty years at the most, the United States will no longer be able to fill the demands for home consumption for their own forests,' and that they will have to import at an enormous outlay what they might have had at a trifling expense! What the consequences will be in other respects, we have already foreshadowed; it is impossible to overrate their importance."

SOME IMPURITIES OF DRINKING-WATER CAUSED BY VEGETABLE GROWTH, by Prof. W. G. Farlow, M. D.—This paper should have been noted before, but it was accidentally crowded out of the last number. It is extracted from a Report of the Massachusetts State Board of Health, etc., and contains two plates, illustrating eight plants. It is a pamphlet that should be in the hands of every one interested in water furnished by ponds or reservoirs. There are 22 pages of it, from which we cull out here and there a passage, although it is exceedingly difficult to select in such a fragmentary way from a paper that is so complete in itself that any omission seems like mutilation.—

"The object of the present paper is to present in a popular form a statement of what is known with regard to the effect of the growth of different plants upon the water in the ponds, streams, and basins which supply the cities and towns of the Commonwealth. In this connection the subject will be discussed from a botanical point of view; and we can only consider certain striking properties, such as smell and taste, with relation to the particular species of plants which produce them, without taking into account the more subtle changes which can only be detected by chemical analysis. It is desirable that all who, in any sense, have charge of the public health, should have some familiarity with the common forms of plants, likely to pollute drinking-water; because, as the matter now stands, the public are at the mercy of any person, who, armed with a compound microscope and a supply of Latin and Greek names, chooses to alarm the neighborhood by the announcement of the appearance in the water-supplies of plants whose injurious nature is supposed to be in direct proportion to the length and incomprehensibility of their names. The public are now beginning to read about the germ-theory of disease; and hearing that fevers may be produced by germs, and being told that germs are found in water, they very naturally but illogically infer that any small bodies found in the water are the germs of disease. Whatever of truth there may be in the germ-theory of disease, there is no doubt that designing persons impose on the credulity and fears of the public by representing as germs of disease microscopic plants which could not possibly have caused any of the diseases which have been supposed by scientific men to be produced by germs of a vegetable nature."

After speaking of the higher water-plants, such as *Myriophyllum*, *Anacharis* and *Potamogeton*, the writer proceeds to consider the algæ.

"Whatever their shape may be, we may, in considering the effect which they produce, divide the algæ into two groups: those which are grass-green or yellowish-green, and those which are bluish-green or purplish."

"Considered from a sanitary point of view, we may say that the grass-green algæ have no injurious effect upon the water in which they grow. On the contrary, we may regard their presence as an indication of its purity, for they do not grow in impure water. If almost any river or pond water, no matter how clear it appears, is placed in a covered glass jar, in a few days or weeks there will be formed a greenish expansion on the sides and at the bottom, which, on examination will be found to consist principally of the young stages of development of some of the algæ which we have already described."

"We may next pass to a consideration of those algæ which have a bluish-green color. The color is of importance, because by its means, any person of ordinary intelligence can distinguish the present group of algæ from those already described; and while, as we saw, the latter are quite harmless, it is to the presence and decay of the former that we are able to ascribe the cause of some of the most decidedly disagreeable odors and tastes found in drinking water."

The characteristic odor given off in decay is aptly described as a pig-pen odor.

"Looking to the future, one may assert that no absolute remedy can be proposed in case of the ponds already affected. They should be cleared of weeds and substances in which the *Nostocs* may lodge; and, where it is possible to regulate the height of the water, it should not be allowed to fall rapidly in the hot weather. Large and deep bodies of water are less likely to be affected than small and shallow bodies, and gravelly bottoms are better than muddy. The escape of steam or hot water should never be turned into ditches or streams connecting directly with water supplies. When such is the case, there is a most luxuriant growth of species of the *Nostoc* family, and the water becomes very foul."

"In one respect, the fears of the public may be set at rest. The theory that certain diseases, as fevers, are produced by germs of some low forms of plant-life, whether true or not, has no bearing on the present case. On the one hand, although we know that the species described in the present article do cause the disagreeable pig-pen odor, and do render the water at times unfit to drink, we know, on the other hand, that they do not cause the specific diseases whose origin is considered to be explained by the germ theory. The germs, so called, are all species of bacteria, distinct from the *Nostoc* family and much smaller."

"From a botanical point of view, the floating *Nostocs* are very interesting; but it is usually difficult to get good material for study unless one is on the spot. The species of *Anabaena* are especially prone to break up and decompose when sent by express, and the various preservative fluids are of little use. To determine the species one should have the spores and heterocysts in position. The best way of preparing specimens is, by means of a pipette, to drop some of the water containing the plants upon a piece of mica or glass, and let it dry. The specimens can then be sent any distance; and, on re-moistening, the plants swell up so that they can be well studied. If they do not at once recover their form, a little ammonia or potash may be added. Information about the winter condition of the vegetation is very much wanted; and especially do we need an accurate chemical knowledge of their relation to the water in which they grow."

DESTRUCTION OF OBNOXIOUS INSECTS BY MEANS OF FUNGOID GROWTHS. By Prof. A. N. Prentiss.—This pamphlet is devoted to the detailing of experiments to test the proposition that certain obnoxious insects can be destroyed by the application of the Yeast Fungus. The result seems to be that yeast cannot be depended upon to rid our house plants of the insects that commonly infest them. Of course Prof. Prentiss does not claim that his experiments decide the whole general question, for yeast may be efficient in the destruction of other obnoxious insects, or some other fungus may be used as a remedy where yeast will not act.